

Serial No. 09/764,621  
Docket No. JP919990067US1

2

**AMENDMENTS TO THE CLAIMS:**

**Claim 4 is canceled without prejudice or disclaimer.**

1. (Currently amended) A liquid crystal display panel, comprising:  
an array substrate including ~~on which~~ a driving element for controlling a driving voltage  
and a display electrode to which a voltage is applied through the driving element are formed;  
a first polarization layer for polarizing the light passing through the array substrate;  
a liquid crystal layer including a liquid crystal material;  
a color filter substrate on which a color filter comprising a color-material film is formed;  
and  
a second polarization layer for polarizing the light passing through the color filter  
substrate,  
wherein the array substrate, the first polarization layer, the liquid crystal layer, the color  
filter substrate, and the second polarization layer are successively superposed.
2. (Original) The liquid crystal display panel according to Claim 1, wherein a common  
electrode is formed on the array substrate and an electric field is generated in a direction parallel  
with the array substrate by applying a voltage between the display electrode and the common  
electrode.
3. (Withdrawn) The liquid crystal display panel according to Claim 1, wherein a common  
electrode is formed on the color filter substrate and an electric field is generated in a direction

Serial No. 09/764,621  
Docket No. JP919990067US1

3

vertical to the array substrate by applying a voltage between the display electrode and the common electrode.

4. (Canceled).

5. (Currently amended) A liquid crystal display device, comprising:

a liquid crystal display panel in which an array substrate and a color filter substrate are arranged to sandwich a liquid crystal layer; and

a backlight unit for applying light to the liquid crystal display panel from the outside of the array substrate,

wherein the light reflected from the array substrate of the liquid crystal display panel directly returns to the backlight unit without passing through other layers.

~~The liquid crystal display device according to Claim 4,~~

wherein:

a polarization layer is disposed between the array substrate and the color filter substrate of the liquid crystal display panel; and

the light reflected from the array substrate returns to the backlight unit without passing through the polarization layer so as to improve the light-recycling efficiency of the backlight unit.

6. (Previously presented) The liquid crystal display device according to Claim 5, wherein a brightness of the liquid crystal display is improved compared to a brightness of a liquid crystal

Serial No. 09/764,621  
Docket No. JP919990067US1

4

display in which light reflected from the array substrate returns to the backlight unit after passing through a polarization layer.

7. (Previously presented) A liquid crystal display device, comprising:

a liquid crystal display panel in which an array substrate and a color filter substrate are arranged to sandwich a liquid crystal layer including a liquid crystal material and a reflection film is formed in an area on the array substrate corresponding to an area in the liquid crystal layer in which the liquid crystal material is oriented in a not-purposed direction when applying a voltage to the liquid crystal layer; and

a backlight unit for illuminating the liquid crystal display panel from the outside of the array substrate,

wherein a display electrode and a wiring conductively connected to the display electrode are formed on the array substrate, and

wherein the reflection film is formed on a gap between the display electrode and the wiring.

8. (Canceled).

9. (Original) The liquid crystal display device according to Claim 7, wherein a polarization layer is formed between the array substrate and the color filter substrate of the liquid crystal display panel.

Serial No. 09/764,621  
Docket No. JP919990067US1

5

10. (Previously presented) A liquid crystal display panel, comprising:
- an array substrate on which a driving element for controlling a driving voltage and a display electrode to which a voltage is applied through the driving element are formed;
  - a liquid crystal layer filled with the liquid crystal material; and
  - a color filter substrate on which a color filter comprising a color-material film is formed,
- the array substrate, the liquid crystal layer, and the color filter substrate being successively superposed,
- wherein a metal film is formed in an area of the array substrate corresponding to an area in which an electric field including a direction different from the original direction of an electric field for driving the liquid crystal material is generated,
- wherein the metal film is formed on a gap between the display electrode and the driving element.

11. (Previously presented) A liquid crystal display device, comprising:
- an array substrate provided with an insulating substrate, a thin film transistor formed on the insulating substrate, a polymer layer which covers the insulating substrate and in which polarization elements are dispersed, and a display electrode which is formed on the polymer layer and penetrates the polymer layer and a part of which conductively connects with the thin film transistor;
  - a color filter substrate disposed so as to face the array substrate by keeping a predetermined gap with the array substrate; and
  - a liquid crystal layer located at the gap between the array substrate and the color filter substrate; and

Serial No. 09/764,621  
Docket No. JP919990067US1

6

a backlight unit for applying light to a liquid crystal display panel from the outside of the array substrate.

12. (Original) The liquid crystal display device according to Claim 11, wherein the thin film transistor is covered with the display electrode when horizontally viewed.

13. (Currently amended) The liquid crystal display device according to Claim 1,  
wherein the array substrate comprises:

an insulating substrate;

a thin film transistor formed on the insulating substrate;

a polymer layer covering the insulating substrate and comprising polarization elements dispersed therein; and

the [[a]] display electrode formed on the polymer layer and penetrating the polymer layer, a part of the display electrode conductively connecting with the thin film transistor.

14. (Previously presented) The liquid crystal display device according to Claim 1,  
wherein the array substrate comprises at least one of a common electrode, a display electrode, a gate electrode, a source electrode, and a drain electrode interposing the array substrate and the first polarization layer, and

wherein at least one of the display electrode, the gate electrode, the source electrode, and the drain electrode reflects light emitted from the backlight unit back to the backlight unit.

Serial No. 09/764,621  
Docket No. JP919990067US1

7

15. (Previously presented) The liquid crystal display device according to Claim 14,  
wherein at least one of the display electrode, the gate electrode, the source electrode, and  
the drain electrode comprises a reflective metal film.

16. (Currently amended) The liquid crystal display device according to Claim 5 [[4]],  
wherein the array substrate comprises at least one of a common electrode, a display electrode, a  
gate electrode, a source electrode, and a drain electrode.

17. (Previously presented) The liquid crystal display device according to Claim 16, wherein  
at least one of the display electrode, the gate electrode, the source electrode, and the drain  
electrode comprises a reflective metal film.

18. (Currently amended) The liquid crystal display device according to Claim 5 [[4]],  
wherein at least one of the display electrode, the gate electrode, the source electrode, and the  
drain electrode reflects light emitted from the backlight unit, and  
wherein the reflected light directly returns to the backlight unit without passing through  
other layers.

19. (New) The liquid crystal display panel according to Claim 1, further comprising:  
a backlight unit for illuminating the liquid crystal display panel from the outside of the  
array substrate,

Serial No. 09/764,621  
Docket No. JP919990067US1

8

wherein the backlight unit, the array substrate, the first polarization layer, the liquid crystal layer, the color filter substrate, and the second polarization layer are successively superposed,

wherein the array substrate comprises:

an insulating substrate;

a thin film transistor formed on the insulating substrate;

a polymer layer covering the insulating substrate and comprising polarization elements dispersed therein;

a display electrode formed on the polymer layer and penetrating the polymer layer, a part of the display electrode conductively connecting with the thin film transistor; and

a common electrode formed on the array substrate,

wherein the common electrode and the display electrode interpose the backlight unit and the first polarization layer,

wherein the display electrode comprises a reflective metal film that reflects light emitted from the backlight unit back to the backlight unit, and

wherein the reflected light directly returns to the backlight unit without passing through the polarization layer so as to improve the light-recycling efficiency of the backlight unit, thereby improving a brightness of the liquid crystal display compared to a brightness of a liquid crystal display in which light reflected from the array substrate returns to the backlight unit after passing through a polarization layer.

Serial No. 09/764,621  
Docket No. JP919990067US1

9

20. (New) The liquid crystal display panel according to Claim 1, further comprising:  
a backlight unit for illuminating the liquid crystal display panel from the outside of the array substrate,

wherein the backlight unit, the array substrate, the first polarization layer, the liquid crystal layer, the color filter substrate, and the second polarization layer are successively superposed,

wherein:

a gate insulating film is formed on an upper side of the array substrate;

a gate electrode is formed in the gate insulating film;

an a Si film is formed on the gate insulating film;

a source electrode and a drain electrode are formed on the a Si film serving as a thin film semiconductor to form a thin film transistor serving as a liquid crystal material driving element;

a display electrode is formed on the gate insulating film to extend from the drain electrode; and

a common electrode is formed on the gate insulating film,

wherein the gate electrode, the source electrode, the drain electrode, the display electrode, and the common electrode interpose the backlight unit and the first polarization layer,

wherein at least one of the gate electrode, the source electrode, the drain electrode, and the display electrode comprises a reflective metal film that reflects light emitted from the backlight unit back to the backlight unit, and



Serial No. 09/764,621  
Docket No. JP919990067US1

10

wherein the reflected light directly returns to the backlight unit without passing through the polarization layer so as to improve the light-recycling efficiency of the backlight unit, thereby improving a brightness of the liquid crystal display compared to a brightness of a liquid crystal display in which light reflected from the array substrate returns to the backlight unit after passing through a polarization layer.